

Warm Up: 9/11/12

The first stage of a rocket burns 28 seconds longer than the second stage. If the total burning time for both stages is 152 seconds, how long does each stage burn?

$$\begin{array}{ccc} \text{stage 1} & & \text{stage 2} \\ x + 28 & + & x = 152 \end{array}$$

$$62 + 28$$

$$\begin{array}{r} 2x + 28 = 152 \\ - 28 \quad - 28 \\ \hline \end{array}$$

$$2x = 124$$

$$x = 62$$

$$\text{stage 2} = 62 \text{ secs.}$$

$$\text{stage 1} = 90 \text{ secs.}$$

⑨

bro 1

bro 2

$$x + x + 15 = 55$$

bro 1 = \$20
bro 2 = \$35

$$\begin{array}{r} 2x + 15 = 55 \\ -15 \quad -15 \\ \hline 2x = 40 \end{array}$$

$$x = 20$$

$$\textcircled{10} \quad \text{side 1} + \text{side 2} + \text{side 3} = P$$

$$\begin{array}{rcccl} 5x & + & 12x & + & 13x & = & 15 \\ 5(.5) & & 12(.5) & & 13(.5) & & \end{array}$$

$$\frac{30x}{30} = \frac{15}{30}$$

$$x = \frac{1}{2} \text{ or } .5$$

$$\text{side 1} = 2.5 \text{ in. or } \frac{5}{2} \text{ in}$$

$$\text{side 2} = 6 \text{ in. or } 6 \text{ in.}$$

$$\text{side 3} = 6.5 \text{ in or } \frac{13}{2} \text{ in.}$$

(26)

$$4 \left(\begin{array}{c} \text{train N} \\ x \\ 50 \end{array} + \begin{array}{c} \text{train S} \\ 2x \\ 100 \end{array} \right) = 600$$

$$4(3x) = 600$$

$$12x = 600$$

$$x = 50$$

North - 50 mph

South - 100 mph

(27) $\frac{\text{cube 1}}{(x)^3} + \frac{\text{cube 2}}{(2x)^3} = 72 \text{ cm}^3$
 $x^3 + 2^3 x^3$

cube 1 = 2 cm $x^3 + 8x^3 = 72$

cube 2 = 4 cm

$\frac{9x^3}{9} = \frac{72}{9} \quad x^3 = 8$
 $x = 2$

(29)

your bus

friend's bus

$$3(\underset{\text{55-20}}{x-20} + \underset{\text{55}}{x}) = 270$$

$$3(2x-20) = 270$$

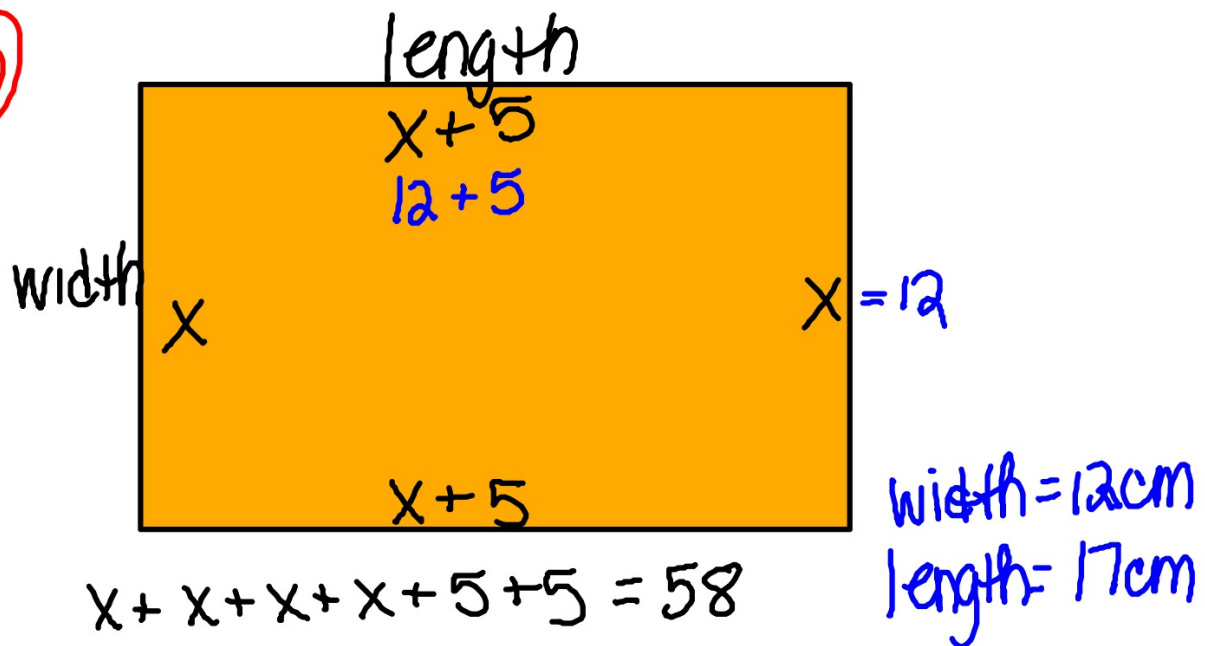
$$6x - \cancel{60} = 270$$

friend - 55mph
your - 35mph

$$\frac{6x}{6} = \frac{330}{6}$$

$$x = 55$$

(30)



$$\begin{array}{r} 4x + 10 = 58 \\ -10 \quad -10 \\ \hline 4x = 48 \\ x = 12 \end{array}$$

(31)

#1

#2

#3

#4

$$x + x + 2 + x + 4 + x + 6 = 336$$

81

83

85

87

$$\begin{array}{r} 4x + 12 = 336 \\ -12 \quad -12 \\ \hline \end{array}$$

81, 83, 85, 87

$$\frac{4x}{4} = \frac{324}{4}$$

$$x = 81$$

Front # 26, 9, 10, 11, 12, 13

Back # 1-5

